

UNIVERSITY CONVOCATION
OF THE STATE OF NEW YORK.

THE
CLASSICS IN EDUCATION:

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PROFESSOR OF LOGIC, AND INTELLECTUAL AND MORAL PHILOSOPHY, IN THE UNIVERSITY
OF THE CITY OF NEW YORK.

The Classics in Education:

AN ESSAY

READ BEFORE THE

UNIVERSITY CONVOCATION

OF THE

STATE OF NEW YORK,

AT ITS

ANNUAL SESSION IN ALBANY,

AUGUST 6th, 1867.

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THE CLASSICS IN EDUCATION.

THE study of the two great languages of the world's early civilization—so long our only means of intellectual discipline—is in our day frequently impugned as unreasonable and unjust. The world has advanced so far, we are told, in the scientific knowledge of nature, that we are no longer in the position in which we were when the Latin was the common medium of philosophical discussion, and the universal language of learned men. Why, then, waste our time in acquiring it, instead of passing over at once to the study of the great body of modern sciences?

A complete answer to this inquiry would require a more full exposition of the subject than can be given in the limits of a paper like this; but there are some considerations bearing upon this objection, for which a brief hearing may be asked.

I. In the first place, then, it may be well to inquire how far it is really true that the classical tongues have lost, in our day, their function of ages to be the vehicle of scientific truth. If the Latin is no longer the instrument of scientific research, it is, and it ever must be, in connection with its sister tongue, the Greek, the storehouse in which are deposited all the results of such research. It is at the present day, and it is continually becoming more and more, the common language of science, for the designation of all its discovered facts in natural history.

The science of nature is, I need not say, expanding rapidly on every side. The number of objects discovered has already become very great in every department of nature. The number of known plants is not much below 100,000; of insects there are supposed to be five times as many; while in every other department of nature, among the molluscs, the crustaceans, and the zoophytes, those still lower inhabitants of the deep, there are thousands of species more. The exploration of distant regions is yet going on; and every new explorer adds still many novelties to our catalogue

of bird, and beast, and fish, and insect, in nearly every quarter of the globe.

Now every one of these newly discovered objects, before its discovery can become a fact *of science*, must have a distinct name. Without a very exact method of naming, it would be impossible to impart that order and system to our knowledge which constitute science. Indeed, without a well settled system of nomenclature, this vast multitude of known objects would be but an endless and indistinguishable confusion. It is, therefore, regarded as one of the great merits of Linnæus—the renowned naturalist of Sweden, in the last century—that he gave to the world a system of the most exact and simple kind; a nomenclature capable of indefinite extension as new objects should be discovered, and applicable to each separate branch of Natural History. He aimed to designate every known natural object by a compound name, consisting of two words, generally descriptive of its characteristic features. We distinguish persons in a similar way, by a complex designation, one part of which describes the family, and the other the individual. We call a man Smith or Taylor, designating thus the family to which he belongs; and we then distinguish him from others of that family by his personal name of John or William. So Linnæus described objects of natural history, giving to each one a family, or generic, name, and adding a designation which distinguishes the species from every other of the genus. Thus, when his pupil, Kalm, brought to him a multitude of plants, from the then unexplored wilds of our own country, to describe and name, he found among them some, of a genus entirely new. To this genus, forming a word from the name of the adventurous discoverer, he gave the designation of *Kalmia*; and the beautiful species before him, which we know so well in our common laurel, with its broad and shining leaves, he named from this circumstance *broad leaved*, or in Latin, *latifolia*. *KALMIA LATIFOLIA* then, became the permanent and elegant designation of the species, preserving at once the name of the discoverer, and the most striking feature of the plant, through all future ages of scientific history.

This beautiful system, carried out into the description of all the groups, wider or less wide, which we distinguish in nature, becomes a method of classification of very high value; and gives to our knowledge an orderly arrangement, without which science were impossible.

Now it is one of the great features of this system that the names are universally expressed in the Latin and Greek languages. The name of the genus is generally taken from the latter; that of the species from the former tongue. When, for example, the remarkable investigator of the geology of Scotland, whose researches have shed such honor upon his country, Hugh Miller, presented to the British Association for the Advancement of Science, the strange organism which he had discovered in the Old Red Sandstone, and demonstrated its character as a fish, Agassiz, who was present, was requested by the Association to give a name to the unknown and extraordinary creature. Observing its two fins, projecting at right angles from its body, like the pinions of a bird, the philosopher named it at once from that characteristic circumstance; but the name could have had no scientific value if it had been expressed only in English. In that language it would have been unintelligible to nine-tenths of the scientific world. Hence Agassiz named his newly-found wonder in Greek, the common language of science for such purposes, the world over. From the two Greek words, *πτερον*, a wing, and *ἰχθυς*, a fish, he formed the name *PTERICTHYS*, the wing-fish; and by this name the group is henceforth known in every land, and by every naturalist, throughout the world.

The two thousand species of fish which the same great observer has recently brought from the Amazon river, will in due time be made in like manner accessible to naturalists. Each will have its double name, describing at once the genus to which it belongs, and the peculiarity which distinguishes it from the other species of that genus. These names, too, will be expressed, not in the barbarous dialect of the rude Indian tribes within whose limits the species were found, nor in the Portuguese of their Christian masters, nor in the native French of the great explorer of the valley of the Amazon, nor yet in the English of the country which sent forth the expedition, but in the languages which are common to science in all lands, and which must endure unchanged through all the remaining ages of history—names vivid in their descriptive picturing, brief for familiar use, equally intelligible in every school of science in the world, and pronounceable by every tongue throughout the area of civilization.

Now it is obvious that if all scientific names are in Latin and Greek, any person who is to become acquainted with science should possess some knowledge of those languages. It may not be an

intimate and familiar acquaintance, and may not embrace an exact and precise knowledge of the refinements of speech; but some knowledge of the vocabulary, particularly of the Latin, is clearly indispensable to a student of science. Without it he cannot know the meaning of the names he is daily uttering, and cannot write them with any certainty that he is accurate; while if he becomes himself a discoverer of species he is unable to describe them by any suitable names, and must see the honor of naming his own discoveries snatched from him by another. If he becomes eminent enough to attempt to give instruction by lectures, he must continually present himself before his audience in the pitiable position of one who knows not the origin, or the explanation, of the names he is uttering; and who fears to commit a blunder in pronunciation as often as he opens his lips. A most eminent geologist of our own State, who has immortalized himself by bringing to light the thousands of fossils of the Silurian deposits of New York, experienced the disadvantage of this want of early preparation; and was obliged to supply the deficiency by learning the elements of Latin and Greek in the maturer years, and amid the active investigations of later life, in order to give names to the discoveries which he had made.

Nor is it only the nomenclature of its classification, which these languages contribute to science. As investigation advances, facts of a deeper kind come to view. Extended analogies begin to be observed, for which the common speech has no name; important generalizations are formed which call for accurate expression; and this expression again needs to be made the common possession of the scientific men who have to make use of it. It has been ascertained by Owen, for instance, that the fundamental type of construction for the whole great group of vertebrate animals, is *the vertebra*; and a scientific description of this important element becomes essential. It is given by the philosophic and learned discoverer in the following words:

“It consists in its typical completeness of the following parts or elements: a body, or *centrum*; two *neurapophyses*, two *parapophyses*, two *pleurapophyses*, two *haemapophyses*, a *neural spine*, and a *haemal spine*. These being usually developed from distinct and independent centres, I have termed *autogenous* elements. Other parts more properly called ‘processes’ which shoot out as continuations from some of the preceding elements are termed

exogenous ; e. g., the *diapophyses* or 'upper transverse processes,' and the *zygapophyses* or the 'oblique' or 'articular' processes of human anatomy." (Lectures on Comparative Anatomy, Part I, page 43.)

It is obvious that the scientific style of our language must, with the progress of philosophical views of nature, go more and more to this abstruse and recondite habit of expression. The tendency is strikingly exhibited in the writings of the author just quoted; who affords certainly the most extraordinary example in our language, and perhaps in any other, of the union of precision with comprehensiveness and breadth. Many sentences might be quoted from his writings, remarkable for concise and lucid accuracy of statement, which yet, from their free use of those Greek compounds which enable the writer to compress into a perfectly definite word a whole comprehensive generalization, are almost unintelligible to the mere general reader.

Indeed, it is curious to imagine what would have been the position of the scientific world at the present day, without those cultivated languages of antiquity to afford the means for the expression of its thought, and for the perfection of its systematic nomenclature. One is positively frightened to think where we should have been by this time, if, by the want of any more generally current medium one hundred and fifty years ago, Linnæus had been compelled to name his wide and comprehensive enumeration of species in every department of nature, in his vernacular Swedish; Buffon, half a century later, to designate his vast array of added species, in his native French; the great English and American explorers of Australia and the Pacific, to name their discoveries in our mother tongue; the more recent and learned naturalists of Germany, to describe the results of their profound researches in German gutturals; the Dutch investigators of Java and Borneo, to employ their familiar language of Holland, and the Russian student of nature to use his own tongue, so difficult to outsiders, to furnish names for the plants of Siberia and the Ural. In such a state of things, science would be only another Babel. We should see mankind toiling through generations to build the loftiest structure that human hands have ever reared, and perpetually baffled by its own inevitable reproduction of the original judgment—a confusion of tongues.

It is truly one of the marvels of Divine Providence—for we

may be sure it is no accident—that, amid the wide diversities of speech in modern christendom, these two noble languages of antiquity should have come down to us as the common heritage of the nations; if not to serve for the personal intercourse of scientific men, yet to supply to science the descriptive terms of its elegant nomenclature, to afford names for the designation of its innumerable species, to furnish the compound words which express its wide generalizations, and thus to form its very language through the ages of its future development.

For these reasons a certain knowledge of the classical languages has become in our day an indispensable element of scientific education for every student of Natural History. The observer who analyzes a flower from the woods, or who makes a collection of shells from the beach, or who raises butterflies or moths from the cocoon, must, if he or she is ever to gain real possession of any one of these departments, or give any scientific value to such researches, be imbued with some tincture of classical learning; while the student who would even follow, with any true intelligence, the progress of scientific discussion, will find his way painfully obstructed without some such attainment.

II. Another very important aspect of this subject is found in the peculiar philological position of the classical tongues.

1. Together with our own, and with most of the languages of modern Europe, they form the great group known as that of the Indo-European languages. The members of that family are connected by many points of identity, which demonstrate their common derivation from one original and central stock in the seat of the world's earliest civilization. Among all these languages the Latin stands forth conspicuous by the singular perfection of its grammatical structure. The system of inflections is, in it, carried out with a regularity and completeness unknown in any other member of the family, unless it be the ancient Sanscrit. It affords, therefore, the very best accessible model for the study of philology. Whoever would cultivate an acquaintance with the science of language in general, will find ampler material for his researches here, than perhaps in any other available form of human speech.

2. If this consideration should seem somewhat far-fetched in itself, it is by no means so in its immediate application.

The Latin language does not stand alone in the world, an isolated and disconnected fact. The old speech of Rome is the

basis of the languages of half the population of Europe; and those, with the single exception (besides our own) of the German, by far the most important. It is the basis of the French, so long the language of refinement and taste in books, and of the intercourse of all the courts and drawing-rooms, and all the polite society, of Europe. It is still more the foundation of the Italian, the earliest in culture and development of the modern tongues, and the language of music and the fine arts. It has given character to the Spanish and the Portuguese—the languages of those energetic nations which, when emancipated from those Bourbon dynasties that learn nothing and forget nothing, will yet vindicate their claim to be the children of those who first carried empire literally around the globe.

To all these tongues the Latin stands in the most intimate relation, and the mastery of it, is, in great part, the mastery of them. The student who is familiar with its grammatical forms, and its vocabulary, has learned so much of the structure of the others, that we may quote the high authority of Mr. John Stuart Mill, in his recent inaugural address, for the assertion that “the possession of it makes it easier to learn four or five of the continental languages than it would be to learn one of them without it.” Surely the language which affords the best key to general philology, and which renders most of the languages of modern Europe five fold easier of acquisition than they would otherwise be, has a claim to a prominent place in any general scheme of education.

3. Still further, the relation of the Latin tongue to our own, commends it as an object worthy of attention.

It is in great part the basis of our own familiar speech. Not, indeed, in the more simple and every day affairs of life is this the case, for in this department the Anglo-Saxon supplies those vivid, homely and significant forms of expression which give it so much of the beauty of simplicity, and of strength. But there is another side to our language, and this is almost wholly of Latin origin, which embraces all our language of philosophical discussion. All our metaphysics, and all our morals, are in expression essentially Greek or Roman. If we give utterance to our feelings as matters of personal experience, we pour forth our love or our hate, our envy or our fear, in the simple Saxon of our childhood; but the moment that we begin to moralize, or to philosophize—that is, to reflect, we speak of sensations, emotions, sentiments, passions,

impulses, and all these words are of Latin origin. The tendency to use these more abstract forms of statement has somewhat declined among us since the great authority of Dr. Johnson gave them such general currency in the last century ; but no one can become familiar with Johnson's precise and weighty style of speech, without being sensible of its extraordinary force. It is not too much to say that his writings gave the British public a new view of the capabilities of their language ; and that since his day it has been generally written with an exactness, a finish, and a power, of which there were very few previous examples in our literature. At present, this side of our English, though not unduly predominant, has a very wide acceptance among good writers ; and even those who, like Paley for instance, possess a perfect mastery over all the simplicities of Saxon speech, feel themselves called, as he did, to a frequent use of very elaborate Latin constructions of phrase.

It is this union of widely different elements in the English tongue which forms one of its distinguishing excellencies ; and no one can acquire the full command of the resources of our vernacular without a tolerable familiarity with this great source of its strength,—save, indeed, as some extraordinary ability may in rare instances supply the place of it.

To the same peculiarities of the Latin as a highly inflected language, is due that power of inversion of the parts of a sentence which forms so remarkable a feature of the style of the great writers of antiquity. As the form of each word indicated its place in the sentence, they were enabled to combine words with a freedom of which we have scarcely any other example. They studied the artistic construction of their sentences with the utmost care ; and they carried this element of beauty and effect to a degree not attained in any other languages, and which has made their works the models for all subsequent ages. This freedom of adjustment none of our modern tongues has retained in any similar degree. The irregular and somewhat lawless style of the English has allowed us more of it than most others possess. We can place the predicate first, and invert the principal members of the sentence, whenever it becomes necessary for the expression of emotion. The French language, on the other hand, has, like the other subjects of the Emperor, entirely lost its liberty of utterance, and is confined to a single and invariable order, in which the subject is always placed first. The French critics seem rather to glory in

this peculiarity, as the proper character of a language of pure reason. "French Syntax is incorruptible," they say; no impulse of passion may disturb the orderly sequence of thought in that tongue. But so long as language shall have for its function the full expression of the human heart, so long will it be indispensable to find the means of adequately expressing emotion.

For this purpose the study of the classical authors is our great means of discipline. They present to us models of expression which are not to be found elsewhere. Indeed, the modern mind has passed the point at which it is possible for any similar models to be produced. It is rich with varied emotions, comprehensive of many forms of thought, and deep in the experience of sentiments, unknown to the ancients; and it has no time to elaborate those perfect forms of narration and statement which give such a charm to the more narrow and limited elegance of ancient days. But while the breadth of our thought, and the depth of our sentiment, so far surpass anything that the ancients knew, their graceful and beautiful forms of expression must long afford the most exquisite models by which to discipline the taste of our richer, stronger, and profounder age.

That these are not merely theoretical advantages may be inferred from the fact that a serious practical necessity of such linguistic culture is already beginning to be felt, even in quarters which it might be supposed would be entirely exempt from it. In the departments recently organized, for example, in some of our best colleges, for mechanical and scientific studies, there is found to exist among the students a great inaptitude, both for the acquisition of those modern languages by means of which such studies must be prosecuted, and for the ready and effective command of the English. So seriously have these difficulties been felt that the Scientific Faculty of one of the very highest of these institutions (I refer to the scientific school in Yale College), strongly recommends to all its pupils a preliminary discipline in Latin; and has even been forced to consider the propriety of making such a discipline an indispensable qualification for admission to the school.

Nor are we at liberty in such a general summary to overlook the fact, that it is in one of these philosophical and elegant forms of human speech that the Almighty Father has been pleased to embody his highest and noblest communications to man. In it He has seen fit to record the history and the instructions of the world's great

Teacher in the way of life,—the death which forms both the sublimest, and the most important event in the world's history, through all the past,—and the Resurrection, which both for each individual man, and for the race at large, most illumines and gilds the future. Were it in some barbarous jargon that these grand disclosures had been embalmed—in some obscure and rude speech, the study of which could add nothing to our intellectual wealth, and contribute nothing to elegance and refinement—it would still seem both ungrateful and unhappy, perhaps also unwise and unsafe, to divorce our systems of education from the studies which contain the world's great means of moral culture. But how striking on the other hand is that providential design which has consigned the teachings of Christ to that language which, by the concession of all scholars, is certainly, the most philosophical, and perhaps also the most elegant, of all the forms of human speech! It seems as though He had designed that the reverent study of His great revelation should not only imbue the mind with religious knowledge, but impart to it also something of the best results of human culture and refinement. It is certainly not without design that the vehicle of the world's religion stands so closely related to its philosophy and its science. The education which teaches us God, teaches us also what is best and noblest in man; as the elevation which raises us nearest to Heaven, shows us most truly and largely the earth.

It would seem, then, that the classical languages must ever occupy an important place in every institution of enlarged education. They are indispensable to any scientific knowledge of nature; they afford our best preparation for the acquisition of the cultivated languages, and of general philology; they enter largely into the constitution of our mother tongue; they afford us by far the best models of style; they supply our language of taste and elegance on the one side, and of philosophy and morals on the other; and they embody the spiritual treasures of God's revelation to man. In various degrees they mingle themselves with all the recent culture, as they stand related to all the early history, of mankind. It will always be difficult, but it is at present quite impossible, to devise means which could at all supply their place in education.

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